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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,751	03/10/2004	Giao Minh Pham	005510.P081	6419

7590

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EXAMINER

TRA, ANH QUAN

ART UNIT	PAPER NUMBER
2816	

DATE MAILED: 03/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/798,751

Applicant(s)

PHAM, GIAO MINH

Examiner

Quan Tra

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 15 and 16 is/are rejected.
- 7) ☒ Claim(s) 13 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/17/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/17/06 has been entered.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Lam et al. (USP 5856760) (previously cited).

As to claim 1, Lam et al. discloses in figure 7 a circuit, comprising: a first current limiting circuit (54 and CS7) including a first switch (Qx1) and a first current source (CS7) coupled between a selector terminal (output of 28) and a first voltage bus (supply voltage of CS7), the first current source having a first fix current limit value, the first current limiting circuit adapted to limit a current out of the selector terminal to the first fix current limit value in response to a voltage on the selector terminal; and a second current limiting circuit (56 and CS8) including a second switch (Qx2) and a second fix current source (SC8) coupled between the selector terminal and a second voltage bus (supply voltage of CS8), the second current source having a

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second fix current limit value, the second current limiting circuit adapted to limit a current limit into the selector terminal to the second fix current limit value in response to the voltage on the selector terminal.

As to claim 2, figure 7 shows a plurality of voltage comparators (Q12, Q13) coupled to the selector terminal.

As to claim 3, figure 7 shows a decoder circuit (Q13, Q15) coupled to the plurality of voltage comparators.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-12, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lam et al. (USP 5856760) in view of Nishiyama (JP 10-190451).

As to claim 4, Lam's figure 7 shows all limitations of the claim except for the current source comprises variable current source. However, replacing a fix current source with variable current source in order to gain more flexibility of controlling desired current is well known in the art. Nishiyama's figure 4 shows an example of a variable current source (I1, I2, 200) having simple structure. It would have been obvious to one having ordinary skill in the art to use Nishiyama's variable current source for Lam's current sources for the purpose of having more flexibility o select desired currents. Thus, the modified Lam's figure 7 shows a first current source (Nishiyama's I1) and a third current source (Nishiyama's I2)

As to claim 5, the modified Lam's figure 7 shows that the first switch is adapted to conduct when the voltage on the selector terminal is below a first threshold voltage (*the first threshold is equal to voltage at the base of transistor Qx1 minus the threshold of transistor Qx1*), the first switch is adapted not to conduct when the voltage on the selector terminal is above a second threshold voltage (the second threshold voltage is the voltage at the base of transistor Qx1).

As to claim 6, the modified Lam's figure 7 shows that the second current limiting circuit includes a second variable current source (Nishiyama's variable current source) comprises the second current source (I1) and a fourth current source (I2).

As to claim 7, Lam's figure 7 shows that the second switch is adapted to conduct when the voltage on the selector terminal is above a third threshold voltage (the third threshold voltage is equal to the voltage at the base of transistor Qx2 add the threshold voltage of transistor Qx2), the second switch is adapted not to conduct when the voltage on the selector terminal is below a fourth threshold voltage (the second threshold voltage is equal to the voltage at the base of transistor Qx2).

As to claim 8, Lam's figure 7 shows that the first current limiting circuit is adapted to limit the current out of the selector terminal to the first fixed current limit value when the voltage on the selector terminal is below a fifth threshold voltage (fifth threshold voltage may be any value that is below the first threshold when only Nishiyama's I1 is selected), the first current limiting circuit is adapted to limit the current out of the selector terminal to a second current limit when the voltage on the selector terminal is above a sixth threshold voltage (sixth threshold

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voltage may be any value that is above the second threshold when only Nishiyama's I1 is selected).

As to claim 9, the modified Lam's figure 7 shows that the second current limiting circuit is adapted to limit the current into the selector terminal to a third fixed current limit value when the voltage on the selector terminal is above a seventh threshold voltage (seventh threshold may be any value between 0 and the first threshold when both of Nishiyama's I1 and I2 are selected), wherein the second current limiting circuit is adapted to limit the current into the selector terminal to a fourth current limit when the voltage on the selector terminal is below an eighth threshold voltage (eighth threshold voltage may be any value between 0 and the second threshold when both of I1 and I2 are selected).

As to claim 10, it is inherent that the first and second threshold voltages is less than the third and fourth voltages.

As to claim 11, the modified Lam's figure 7 shows the fifth threshold voltage and the sixth threshold voltage are lower than the first threshold voltage and the second threshold voltage (as noted above, the fifth and sixth threshold voltages may be any values).

As to claim 12, the modified Lam's figure 7 shows that the seventh threshold voltage and the eighth threshold voltage are higher than the third threshold voltage and the fourth threshold voltage (as noted above, the seventh and eighth threshold voltages may be any values).

As to claim 15, Lam's figure 7 shows that the circuit further included in an integrated circuit.

As to claim 16, Lam's figure 7 shows that the integrated circuit device is a controller in a switching power supply.

Allowable Subject Matter

5. Claims 13 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

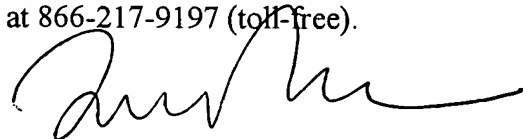
Claims 13 and 14 would be allowable because the prior art fails to teach or suggest the first and third fixed currents are respectively less than the second and fourth fixed current.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan Tra whose telephone number is 571-272-1755. The examiner can normally be reached on 8:00 A.M.-5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



QUAN TRA
PRIMARY EXAMINER
ART UNIT 2816

February 23, 2006